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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,210

06/03/2005

Philip Howse

BOUL/0015

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EXAMINER

PURDY, KYLE A

ART UNIT

PAPER NUMBER

1611

MAIL DATE

DELIVERY MODE

11/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,210	Applicant(s) HOWSE ET AL.	
	Examiner Kyle Purdy	Art Unit 1611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1 page (06/29/2009)</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

1. The Examiner acknowledges receipt of the amendments filed on 06/29/2009 wherein claim 1 has been amended.
2. Claims 1-20 are presented for examination on the merits. The following rejections are made.

Response to Applicants' Arguments

3. Applicants arguments filed 06/29/2009 regarding the rejection of claims 1-4 and 6-20 made by the Examiner under 35 USC 103(a) over Howse et al. (WO 00/01236) in view of Saini et al. (AM. J. Roentgenology, 1988) have been fully considered but they are not found persuasive.
4. Applicants arguments filed 06/29/2009 regarding the rejection of claim 5 made by the Examiner under 35 USC 103(a) over Howse et al. (WO 00/01236) in view of Saini et al. (AM. J. Roentgenology, 1988) in further view of Westesen et al. (US 5885486) have been fully considered but they are not found persuasive.
5. The rejection of claims 1-20 made by the examiner under 35 USC 103(a) is **MAINTAINED** for the reasons of record in the office action mailed on 02/02/2009.
6. In regards to the 103(a) rejection, Applicant asserts the following:
 - A) Howse really teaches the magnetic materials polarize the surface of the insect, not that the insect has an inherent magnetic field. Also, Howse requires that if a soft magnetic material is present, it be present with a hard magnetic material;

B) The “weak magnetic” field required to polarize paramagnetic and superparamagnetic materials, as taught by Saini, would be much greater than those exerted by an insect; and

C) The rejection of claim 5 should be withdrawn because the rejection of Howse and Saini is improper.

7. In response to A, the Examiner disagrees. The Examiner is providing an evidentiary reference that shows insects possess an inherent magnetic field. See Ferreira et al. (J. Magnetism and Magnetic Materials, 2005, 289, 442-444). It's taught that termites and honey bees contain sufficient amounts of hard magnetic materials so as to exert a coercive magnetic field on an order of between 107-115 and 83-103 Oe, respectively. In fact, according to Ferreira, termites and honey bees contain at least two different magnetic components with different coercive forces. Accordingly, Applicants argument that the pesticidal magnetic material is required to polarize the insect is not found persuasive because insects clearly possess an inherent magnetism which is on the order of the field taught by Saini as sufficient to induce magnetism in non-magnetized superparamagnetic materials. Thus, if a composition comprised non-magnetized paramagnetic materials, when in the presence of an insects magnetic field, said paramagnetic material would become polarized and attracted to the insects surface.

8. Applicants assertion that Howse requires the soft magnetic material to be admixed with a hard magnetic material is not found persuasive. Insects are known to possess an inherent magnetic field sufficient to induce polarization in an non-magnetized paramagnetic material. Moreover, the Examiner notes that Howse states on page 4 that, “soft magnetic materials, such as Fe, Fe₂O₃, or ferrosilicates may also be used if the have been magnetized or become magnetized by admixing with hard magnetic materials”. It's important to note that Howse teaches that soft

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magnetic materials can be used if they become magnetized upon mixture with a hard magnetic material. In view of the evidentiary reference which teaches that insects contain hard magnetic materials, one would expect a non-magnetized material to become magnetized in the presence of an insects hard magnetic field. Applicants arguments are not found persuasive.

9. In response to B, Applicants argument is not found persuasive. As discussed above, insects contain various hard magnetic materials which exhibit a coercive magnetic field much greater than 50 Oe.

10. In response to C, the Examiner respectfully disagrees because the rejection over Howse in view of Saini is being maintained and is believed to be proper.

Maintained Rejections, of Record
Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 1-4 and 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howse et al. (WO 00/01236, published 01/13/2000; of record, see IDS, reference provided by Examiner) in view of Salini et al. (American J. Roentgenology, 1988, 150(4), 735-743).

14. Howse is directed to a method and apparatus for controlling pests. The method requires exposing the pests to particles coated with a behavior modifying compound or a pesticide coated onto a magnetic particle (see abstract; see instant claims 1 and 3). Exemplified magnetic materials include soft ferromagnetic materials such as iron, nickel and cobalt (see page 3; see instant claim 2). Pesticides include any compound that can be used to control agricultural, natural or domestic pests such as insects. Exemplified pesticides include naturally occurring and synthetic insecticides, fungicides, acaricides, insect growth regulators and chemosterilants, entomopathogens such as bacteria, viruses and fungi. Behavior modifying compounds include pheromones, allomones, kairomones, and food odors (see page 7; see instant claims 7-9, 14-17, 19 and 20). The particles are to contain at least 0.1% of the behavior modifying compound or pesticide (see page 6; see instant claim 10-12). The size of the particles range from 2-100 microns (see page 4; see instant claims 6 and 12). Moreover, it is taught that the particles are to be carried by an inert substance such as polymers like chitin, chitosan, or rubber (see page 5; see instant claim 4).

15. Howse fails to teach the particles as being unmagnetized wherein those unmagnetized particles become magnetized in the presence of the insects magnetic field.

16. Saini teaches that unmagnetized ferromagnetic materials contain multiple domains with random magnetic directions which may become magnetized when present within a magnetic field (see 738, right column)..

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17. Regardless, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Howse with a reasonable expectation for success in arriving at a method of controlling pests with unmagnetized soft metals coated with a pesticide or behavior modifying chemical. While it's true that Howse requires magnetized particles, it would have been obvious to any person of ordinary skill that unmagnetized ferromagnetic metals are also capable of performing the exact same function. According to Howse, magnetic particles are capable of adhering to the cuticle of insects for prolonged periods of time without losing their effectiveness (see page 2). It's clear to the Examiner that insects possess at the very least a minor magnetic field. It would have readily occurred to any person of ordinary skill in the art, with knowledge of magnetism, that if preparing the same product but with unmagnetized ferromagnetic material, the exact same results would occur as the unmagnetized metal becomes polarized when exposed to the insects magnetic field and allow for the now magnetized particles to adhere to the surface of the insect. Salini is cited to support this notion. Saini teaches that unmagnetized ferromagnetic materials contain multiple domains with random magnetic directions, which is instantly the case. It's taught that such samples are easily magnetized when placed in an external magnetic field because the magnetic moments of each individual domain will orient parallel to the applied magnetic field. Moreover, the unmagnetized material will even magnetize to saturation when exposed to relatively weak external magnetic fields (see page 738, right column), such as present to insects. Therefore, it would not be a great leap for any person of ordinary skill in the art to modify the work of Howse such that the magnetic material is unmagnetized, only to become magnetized when exposed to the insects magnetic field.

Therefore, the invention as a whole is *prima facie* obvious to one of ordinary skill in the art at the

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time the invention was made, as evidenced by the references, especially in absence of evidence to the contrary.

18. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Howse et al. (WO 00/01236, published 01/13/2000), in view of Salini et al. (American J. Roentgenology, 1988, 150(4), 735-743) as applied to claims 1-4 and 6-20 above, and further in view of Westesen et al. (U 5885486, published 03/23/1999).

19. Howse does not teach the particles as being carried by a lipid such as a fatty acid.

20. Westesen cure this deficiency. It is taught that particles of lipids can be used as carriers for drugs, and other bioactive agents such as insecticides, fungicides and pesticides (see column 1, lines 10-15). Exemplified lipids include fatty acids and their esters (see column 9, lines 20-30; see instant claim 5).

21. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Howse and Westesen with a reasonable expectation for success in arriving at a method of controlling insects with an unmagnetized metal material coated with pesticides and behavior modifying agents wherein the particles are carried by fatty acids and esters thereof. One would have been motivated to use a fatty acid as a carrier as it's taught they are useful for aiding in solubilizing drugs such as insecticides, pesticides and fungicides without compromising the efficacy of the composition in its ability to attract and kill unwanted insects. Therefore, the invention as a whole is *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in absence of evidence to the contrary.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

23. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle A. Purdy whose telephone number is 571-270-3504. The examiner can normally be reached from 9AM to 5PM.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila Landau, can be reached on 571-272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kyle Purdy/

Examiner, Art Unit 1611

October 29, 2009

/David J Blanchard/

Primary Examiner, Art Unit 1643